OUTLINE OF A PROGRAM ON PREVENTION OF BLINDNESS

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Social Security Board

This skeleton of a program for Prevention of Blindness is presented to the workers of the Social Security Board in order that they may become aware of the fact that the Problem of the Blind in the United States cannot be solved merely from the isolated standpoint of Public Assistance. The prevention of the condition which necessitates Public Assistance is the proper scientific approach to the situation.

We have therefore endeavored to make simple, definite, practical suggestions as to a program of Prevention of Blindness, together with some recommendations for personnel, training, and execution.

Since Prevention of Blindness is a highly specialized subject, any work attempted in this field must have the undivided support of the ophthalmologists. Such work cannot have any permanent value without their advice and assistance.

This material has been approved by Dr. Harry S. Gradle, Vice President of The Illinois Society for the Prevention of Blindness; Dr. Lawrence Post, Editor of American Journal of Ophthalmology; Dr. Conrad Berens, Director of National Society for the Prevention of Blindness, Mr. Russell Tyson, President of The Illinois Society for the Prevention of Blindness and Vice President of the National Society for the Prevention of Blindness, and Dr. Carl E. Rice, Surgeon, U. S. Public Health Service and Consultant to Social Security Board

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OUTLINE OF A PROGRAM ON PREVENTION OF BLINDNESS

1. Study of Causes of Blindness
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3. Conserving the Eye Sight of School Children
4. Trachoma Control
5. Prevention of Blindness by Medical Social Eye Workers
6. Prevention of Blindness from Accidents

A STUDY OF CAUSES OF BLINDNESS

In order to attack the problem of Prevention of Blindness in an intelligent and orderly manner, the causes of blindness in any State must be determined. Such a study should therefore be initiated before any program is planned because the procedure will necessarily be conditioned by the findings of the study.

The material for a study may be gathered in several ways:

1) If there is a Commission for the Blind which administers Aid to the Blind, and the application for aid is accompanied by an ophthalmological blank which gives clear and accurate diagnosis, cause, prognosis, and visual acuity, the procedure is simple. The cause of blindness may be taken off the medical sheet and codified.

2) A Commission for the Blind may not administer a pension and yet it may keep a Register of the Blind in the State which includes ophthalmological information on each blind person. Such a Register might have information full enough to serve as a basis for a study on Causes of Blindness.

3) Some Commissions may only have a list of the blind receiving Aid with no medical information whatever. In this situation the list might be broken up into small lists covering the local governmental subdivisions. Each of the local ophthalmologists or eye, ear, nose, and throat specialists could be shown the lists and could give diagnoses on their own patients. There will always be, in this situation, some blind who are unkown to the local physicians and it will be necessary to visit these, interview them, find out where they got their medical

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treatment, and trace their medical record back to its source. This will take time and careful, meticulous work and under these circumstances a complete and accurate study is almost impossible.

4) In some States no Register of the Blind may be available and a Register will have to be built up before the medical study can be made. A register may be compiled from the Census, Schools for the Blind, Almshouses, Homes for the Aged, Eye Clinics, and other social agencies. After the Register is complete it will be necessary to follow the same plan as is outlined under 3) for collecting medical data.

When all the medical material available has been collected, the codification should be done with the advice and under the supervision of an ophthalmologist.

PREVENTION OF BLINDNESS AMONG NEW-BORN BABIES

Ophthalmia Neonatorum is an inflammation of the eyes, which is contracted as the baby passes through the birth canal of the mother. If there are any harmful germs in that canal that get into the child's eyes and the eyes are not washed out immediately after birth with an effective prophylactic then the baby stands a serious chance of losing its sight.

Since the 80's when Dr. Karl Crede discovered that instillation of a 1% solution of Silver Nitrate was an effective preventive agent against this disease, blindness from "babies' sore eyes" has decreased with startling rapidity.

The steep decline in the incidence has been largely due to the enactment of laws which provide for the instillation of some preventive agent against Ophthalmia Neonatorum. Although three-quarters of the States have laws in regard to Ophthalmia Neonatorum, they are not all equally effective.

It would be well, therefore, in initiating a program for prevention of blindness among the new-born to read the law and analyse it from the standpoint of its effectiveness. If there is no law, then immediate steps should be taken to have one enacted and this will be difficult work since any statute of this kind is always opposed by anti-medical groups who are usually well organized and able to maintain a powerful lobby.

In enacting a law be sure that it specifies that any individual attending at the birth of a child shall instill the prophylactic (doctor, midwife, or nurse). Some laws in the United States specify that only doctors shall do so; some that only midwives; still others that only state institutions shall be held responsible for this procedure.

Be sure: 1) that in the law the definition of Ophthalmia Neonatorum is broad enough to include any redness, swelling, or pus in the eyes of a new-born baby;

2) that the disease is reportable to the proper administrative authority within a few hours by letter or telephone;

3) that a 1% solution of Silver Nitrate is mentioned with the alternative that some other equally effective prophylactic for the prevention of blindness from Ophthalmia Neonatorum may be used, providing it is approved by the Department of Public Health. (This last provision give the doctor some leeway and will preclude the necessity of changing the law in case a new and more effective prophylactic is discovered).

Be sure that there are no clauses exempting certain classes or group since such exemptions always weaken the enforcing value of the law.

Law Enforcement

A State may have a well-worded and adequate law to protect the eyes of babies and yet have no machinery for law enforcement, or if there is such machinery it may be rusting from disuse. The just and adequate enfor nent of any Ophthalmia law should be of prime interest to any group workin on the prevention of blindness.

Many States carry on their birth certificates the question "What prophylactic did you use in the baby's eyes?" or "Did you use a prophylactic in the baby's eyes?" If such a question does not appear on the birth certificate, those interested in the prevention of blindness should work towa having the Department of Vital Statistics include this sentence as it furnishes a check on the use of a prophylactic in the eyes of the new-born.

Prevention of Blindness Among New-Born Babies (Cont'd)

An organization for the prevention of blindness, working in cooperation with the State Department of Health may check the birth records each year and report all deviations from the prescribed prophylactic to the Director of Health, who in turn may get in touch with those who do not comply with the law or report them to the prosecuting officer. This will do much to standardize treatment and render the law effective.

Free Distribution of Nitrate by Boards of Health

In an article published by the National Society for the Prevention of Blindness in 1929, there were listed 29 States which furnished a prophylactic free of charge. Some States furnish only to doctors; some only to midwives; some to both. The more ample the supply, the more effective a prevention of blindness program will be, and in mapping out such a program, information in regard to the distribution of a free prophylactic by the State Board of Health is of great importance. If the distribution is not adequate, the cooperation of the State Board of Health should be secured to improve the distribution.

Midwives

If midwives are operating in a State, each one of them should be visited and acquainted with the specifications of the law in regard to treating the eyes of new-born babies. They should be instructed by a qualified Public Health Nurse in the most approved technique for instilling the prescribed prophylactic; they should be told if the prophylactic is furnished free and where they may obtain it, and that they should never use anything but fresh solutions. This supervision of midwives is usually well provided for in the different states by respective State Boards of Health in their maternal welfare and infant care program.

Education of Expectant Mothers

With the medical program of public relief, a great deal of educational work can be done with expectant mothers. Simple leaflets on Ophthalmia which do not stress too much the venereal disease angle may be distributed by them to expectant mothers so that they will demand this protection for their babies. This work is also usually well taken care of by State Boards of Health in their maternal welfare programs.

A BILL

For an Act to amend Sections 3 and 8 of "An Act for the prevention of blindness from ophthalmia neonatorum; designating certain powers and duties and otherwise providing for the enforcement of this act," approved June 24, 1915.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. Sections 3 and 8 of "An Act for the prevention of blindness from ophthalmia neonatorum; defining ophthalmia neonatorum; designating certain powers and duties and otherwise providing for the enforcement of this act," approved June 24, 1915, are amended to read as follows:

Sec. 3. It is the duty of all maternity homes and any and all hospitals or places where women resort for purposes of childbirth, to post and keep posted in conspicuous places in their institution, copies of this act, and to instruct persons professionally employed in such homes, hospitals and places regarding their duties under this act, and to maintain such records of cases of ophthalmia neonatorum in the manner and form prescribed by the Department of Public Health.

It shall be the duty of any physician, midwife or nurse who attends or assists at the birth of a child, to instill or have instilled in each eye of the new born baby, as soon as possible and not later than one hour after birth, a one per cent (1%) solution of silver nitrate or some other equally effective prophylactic for the prevention of ophthalmia neonatorum approved by the State Department of Public Health.

Sec. 8. Any person violating any of the provisions of this act shall be guilty of a misdemeanor and shall, upon conviction thereof, be fined not less than fifty dollars ($50) nor more than one hundred dollars ($100), or be imprisoned in the county jail not to exceed six months, or both, in the dis-

cretion of the court.

CONSERVING THE EYESIGHT OF SCHOOL CHILDREN

Sight-saving classes in the United States have been developed so that children with low vision may pursue their education without endangering what sight they have left.

From a standpoint of vision, school children fall into three categories:

1) Those children having normal vision with or without glasses, who are able to read ordinary print.
2) Those children with such a small amount of vision, or no vision whatever, who cannot read any kind of print and must read with their fingertips in schools for the blind.
3) Those children who have not enough vision to read ordinary print and yet too much to read Braille, or whose eyes are in such a condition that ordinary school use would jeopardize the visual future. This is the group to be found in sight-saving classes, where they read 24-point type. Formerly they drifted into schools for the blind where they did not belong or after repeated failure in the ordinary class room dropped out of school.

The Sight-Saving Movement is a cooperative effort which includes the school, the eye physician, and the social worker. The work cannot go far unless all three of these groups work together to establish sight-saving classes and see that they are properly equipped and maintained.

Legislation

The basis for an effective sight-saving program is a good Enabling Act, plus adequate appropriation bills rewritten to fit the changing and expanding needs at each meeting of the legislature. Without such legislation providing adequately for the excess cost of these classes, it will be

Conserving the Eye-Sight of School Children

The work is only partially finished when such a statute becomes incorporated into the laws of a State. The Enabling Act provides a solid foundation upon which to build but the structure must be reared by steady, fair, well distributed appropriations.

Appropriations for this work may be made in two ways: A lump sum to be distributed by a designated Department of the State, or definite amounts based on the number of children served appropriated to specific school boards. This latter method, from the standpoint of a steady, safe program, is much the better.

Since the growth of such a movement depends largely on finances, everything possible should be done to make the local school boards feel secure and satisfied in regard to their State subsidy. When lump appropriations are made no such security may be guaranteed because the distribution of such funds cannot be anticipated. Furthermore, a bill which specifies definite amounts to specified school boards throughout a State will automatically rally to its support the legislators from the districts mentioned in the bill, as the legislator will always be much more interested in one which has some local significance for him. From that interest, which may be purely political at first, may grow a deep and permanent interest in saving sight which will be of tremendous value.

Vision Testing Among School Children

After effective legislation has been enacted, the problem of locating the children who need this special education arises.

Only when yearly examinations of the eyes of school children, beginning with the kindergarten, becomes an accomplished fact shall we discover our

"Sight-saving" children in time to do our most effective work.

Conserving the Eye-Sight of School Children

More and more the need for a yearly inspection of the eyes of school children is being recognized. In some States legislative action has been taken to guarantee this for the school children. Vision inspection by school nurses and teachers is not to be confused with medical examination, which can only be done by a physician.

If in a given State the eyes of all school children cannot be inspected, then a fairly satisfactory piece of work may be done by giving a simple visual acuity test with the Snellen chart, properly illuminated, at twenty feet, to all children suspected of having poor vision or visual defects. This would include all children wearing glasses, or who formerly wore glasses, all squint cases, all children showing evidences of eye strain, all retarded children, all problem children, all children in the kindergarten, first, and second grades.

Records of such inspections should be kept meticulously, all deviations from normal vision, and all cases of squint, being recorded. All children found to have defects should be routed immediately to an ophthalmologist.

In a correction program it is well to take the most serious cases first and do an intensive piece of work on this group. After the ophthalmologist has made the examination and glasses have been fitted, the school nurse may do a great deal to help the physician by intelligent follow-up work with the parents.

Standards for Admission to Sight-Saving Classes

There will always be a small group of children who after proper medical examination and treatment still have low vision. These children, roughly speaking, are the ones who are candidates for sight-saving classes. Below are the standards for admission to sight-saving classes:

1) Children having a visual acuity of less than 20/70 in the

better eye with the best possible correcting glasses.

2) Children in elementary schools having myopia of the progressive type

3) Inactive, subsiding (or regressive) cases, such as interstitial or phlyctenular keratitis, optic neuritis, trachoma, etc., in which some irritation may be present (provided the approval of the attending physician is given).

4) Any child who, in the opinion of the ophthalmologist, would benefit by assignment to a Sight-Saving class, subject to suggestion for treatment and training by such ophthalmologist, and the acceptance of the educational authorities having charge of such classes.

5) All cases must be considered individually.

6) It is assumed that all children assigned to Sight-Saving classes have average intelligence.

No child should be admitted to a sight-saving class except on the recommendation of an ophthalmologist and with a full medical record.

The training of Public Health nurses in the most approved method for the testing of the eyes of school children should form a part of any prevention of blindness program.

Qualifications for Teachers of Sight-Saving Classes

The selection of teachers for sight-saving classes is of the utmost importance. Faults which might pass unnoticed in a teacher in the regular grades will stand out with startling clarity in a teacher dealing with handicapped children.

1) She should have a personality which will act as a stimulant to the visually handicapped child and will spur him on to independence

while training him to recognize, accept, and meet the conditions imposed by his low vision.

2) She should meet the requirements for educational standards set by the system in which the class is established.

3) She should have had three to five years' experience teaching in the regular grades with such experience covering several grades since in sight-saving work she will have children from at least four grades to supervise.

4) She must have especial training in sight-saving work. (Several courses are offered every summer by the National Society for the Prevention of Blindness in conjunction with various universities throughout the country.)

5) She must have excellent vision herself since she must use it to compensate for the lack of it on the part of her pupils.

Specifications for a Sight-Saving Room

A Sight-Saving room is one which is so situated and so equipped that every possible source of eye strain for the children is eliminated.

1) A room should be selected in a modern school building centrally located.

2) The room should have eastern or western exposure and should have unilateral natural lighting.

3) The artificial lighting should be planned to give at least 25 foot candles of light at the desk level, the light to be well diffused.

4) The walls should be painted buff color and the ceiling a flat white. The black boards should be very black and should be kept clean and as free as possible of dust.

5) All woodwork and furniture should have a dull mat finish.

6) There should be adjustable shades at the windows working from the middle up and from the middle down so that the natural light in the room may be controlled as it changes during the day.

7) The desks should be movable so that they may be shifted as the light changes during the day. The lids should have several tilting levels so that the work may be adjusted to fit the visual needs of the child.

8) The books for sight-saving pupils are printed in 24-point type. (See sample)

9) The children are taught typing on Bulleting typewriters.

10) Manuscript writing is taught. Cream colored paper, soft pencils, large pens, and india ink are used for this.

11) Special chalk which is very soft is used at the blackboard.

Since so much individual attention is necessary because of the very closely supervised study, it is felt that the classes should not exceed sixteen pupils, or include more than four grades.

It is part of the philosophy of sight-saving that the children in these classes shall study under close supervision in the sight-saving rooms but shall recite in the regular grades. The reason for this is clear. They maintain normal contacts in their school life and do not feel isolated under this system. Many school people are not willing to face the rather complicated conditions imposed by this plan and insist on having segregated classes for handicapped children, but where the classes are segregated the children are much more conscious of their handicap and their adjustment in school and at home is not so satisfactory.

In suggesting a program of this kind, then, it would be well to analyze existing laws and if no statutory provision is made for the education of the visually handicapped child, the practical thing to do would be to draft a model Enabling Act which would cover the following points:

1) It should definitely empower any educational body in any of the governmental subdivisions of the state to open such classes, if the need can be demonstrated.

2) It should provide for the payment of exchange per capita for children transferred from one school district to another. In rural counties it would probably be necessary to have consolidated classes and so each school from which visually handicapped children are sent should reimburse the school district where the sight-saving class has been established up to the amount of the normal per capita of the last mentioned district.

3) It should provide for an allowance of a stated amount per year per child to cover the excess cost of educating such children.

4) It should provide for the cost of transporting children from school districts where there are no sight-saving classes to districts where one has been established.

5) It should stipulate that only teachers especially trained for the work may be placed in charge of these classes.

6) It should provide for adequate supervision.

Sight-Saving Classes in the United States

According to the records available to the National Society for the Prevention of Blindness at the close of 1935* there were 478 sight-saving classes in the United States, the District of Columbia, and the Territory of Hawaii, distributed as follows:

California	
Long Beach	2
Los Angeles	10
Pasadena	2
San Diego	1
San Francisco	3
Colorado	
Denver	1
Connecticut	
Hartford	1
New Britain	1
New Haven	2
District of Columbia	
Washington	3
Georgia	
Atlanta	1
Illinois	
Aurora	1
Bloomington	1
Champaign	1
Chicago	36
Danville	1
Decatur	1
Elgin	2
Evanston	1
Freeport	1
Jacksonville (School for the Blind)	2
Joliet	3
LaSalle	1
Peoria	1
Rockford	2
Rock Island	2
Springfield	1
Villa Park	1
Indiana	
East Chicago	1
Gary	1
Indianapolis	1
South Bend	1

Iowa	
Des Moines	1
Coleraine	3
Kentucky	
Louisville	2
Louisiana	
New Orleans	7
Maine	
Portland	1
Maryland	
Baltimore	10
Massachusetts	
Boston	16
Brockton	1
Brookline	1
Cambridge	2
Chelsea	1
Everett	1
Fall River	3
Framingham	1
Holyoke	1
Lowell	1
Lynn	1
Medford	1
New Bedford	2
Newton	1
Revere	1
Salem	1
Somerville	1
Springfield	1
Watertown	1
Worcester	2
Michigan	
Battle Creek	1
Dearborn	1
Detroit	27
Ferndale	1
Flint	2
Grand Rapids	7
Highland Park	1

Michigan (cont'd.)

Jackson	1
Muskegon	1
Saginaw	1
Ypsilanti	1

Minnesota

Faribault (School for the Blind)	2
Hibbing	1
Minneapolis	8
St. Cloud	1
St. Paul	5

Missouri

Kansas City	1
St. Louis	4
St. Louis Parochial	1
University City	1

New Jersey

Camden	1
Elizabeth	2
Jersey City	2
Newark	3
Paterson	2

New York

Albany	2
Auburn	2
Beacon	1
Binghamton	2
Buffalo	7
Dunkirk	1
Floral Park	1
Hamburg	1
Hicksville	1
Ithaca	1
Jamestown	1
Johnson City	1
New York City	92
Kenmore	1
Long Beach	1
Locust Valley	1
Mt. Vernon	1
Newburgh	1
Niagara Falls	1
Rochester	3
Schenectady	1
Syracuse	3
Yonkers	1

Ohio

Akron	2
Alliance	1
Ashtabula	1
Barberton	1
Campbell	1
Canton	1
Cedarville	1
Cincinnati	7
Chisholm	1
Cleveland	21
Cleveland Heights	2
Columbus	4
Dayton	3
Dennison	1
E. Cleveland	1
Fremont	1
Gallipolis	1
Hamilton	2
Hillsboro	1
Ironton	1
Lima	1
Logan	1
Lorain	1
Mansfield	1
Middletown	1
Newark	1
Norwalk	1
Oak Harbor	1
Portsmouth	1
Sandusky	1
Springfield	3
Steubenville	1
Toledo	5
Warren	1
Youngstown	4

Oregon

Portland	1

Pennsylvania

Erie	1
Philadelphia	12
Pittsburgh	1
Reading	2

Rhode Island

Providence	4

Virginia

Norfolk	1

Virginia (cont'd.)	
Richmond	3
Roanoke	1
Washington	
Seattle	7
Spokane	1
Tacoma	2
Wisconsin	
Milwaukee	3
Superior	1
Territory of Hawaii	
Honolulu	2

*In February, 1936, classes were opened in the following: one each in San Francisco, Louisville, Portland, Oregon; Philadelphia, and Oshkosh; three in New York City.

CONTROL OF TRACHOMA

Because Trachoma presents such a definite Public Health problem by reason of being an infectious disease, its control is dealt with in this outline as a separate and special problem in prevention of blindness.

Trachoma, which is known colloquially as "granulated lids", "red sore eyes," and "wild hairs" is a disease of the lining membrane of the eye lids. Granules or follicles which form on the inside of the lid rub against the sensitive cornea of the eye causing irritation, tearing, clouding, scarring, and finally partial or total destruction of sight. When the granules heal, scarring occurs on the inside of the lid, and the contraction resulting from this turns the lid inward, causing the lashes to sweep down over the eye ball instead of away from it. This latter condition causes the intense discomfort and pain seen in the advanced stages of the disease.

Trachoma is an infectious disease. It is carried by infected material from a trachomatous eye to a healthy eye. This may happen when several people use the same towel, handkerchief, or bedding. Poverty, insanitary living conditions, and over-crowding are perhaps the most potent factors in the spread of Trachoma through certain areas of our country.

Trachoma is found in the United States in Kentucky, lower Indiana and Illinois, southern Missouri, Arkansas, Oklahoma, eastern Tennessee, West Virginia, and on the Indian Reservations of New Mexico, Arizona, and Minnesota. Of course it is not entirely absent in many other portions of the country but in the above mentioned regions its incidence has been high enough to call for some sort of organized control.

The control of Trachoma is worth study wherever prevention of blindness is being carried forward since blindness from this cause is unnecessary

if proper measures are taken to prevent the progress of the disease. In attacking this problem it is essential first to establish the existence of the condition and this will be contingent upon the findings of the study made on Causes of Blindness in any given state. If such a study shows that Trachoma exists in large enough quantity to warrant the expenditure of public funds for its control then a plan must be made to bring this about.

Usually, a series of diagnostic clinics held in several towns throughout the region where Trachoma is rife is the best procedure. At these clinics it would be well to have veterans in Trachoma work from the United States Public Health Service in charge, as it is a difficult disease to diagnose.

These clinics must be well publicized through the newspapers, churches, schools, and in some states all the rural mail boxes have been circularized. The endorsement of local medical societies should always be obtained before any organization is done.

The data obtained through these clinics should be tabulated and presented to the proper State authorities. If the figures show a large enough amount of positive Trachoma to warrant the expenditure of public funds for its control, then the proper State and National organizations should be appealed to for help.

Several plans have been followed in financing such work. In some cases the United States Public Health Service has matched funds with State Boards of Health. Some States have matched private funds with State funds.

In the method of control there has also been a variety of plans. Trachoma Hospitals have been established preferably in the center of the Trachoma belt. Travelling clinics through rural areas at regular intervals

have been organized. In one State, a series of five clinics located about twenty miles apart through the Trachoma belt has been established. Each clinic is open three days a week. Into this plan have been drawn the State Department of Welfare, the local relief agencies, and the W. P. A. which has been running thirty bus lines into the clinics, thus solving the difficulties of transportation. The supervision of this work has been in the hands of a private prevention of blindness agency.

This plan is not very expensive and cares for large numbers (sometimes as many as 1050 patients a week.) It does not cost so much as hospitalization and the treatment may be carried on over long periods of time, which is necessary since Trachoma is a stubborn chronic disease.

Education of the public as to the ways in which Trachoma is spread and the means by which it may be prevented will do much to prevent loss of sight.

PREVENTION OF BLINDNESS THROUGH MEDICAL SOCIAL EYE WORKERS

It is a well known fact that failure to return for treatment is the cause of much preventable blindness. A partnership between the ophthalmologist and a Medical Social Worker with special training in eye work has been found to be an effective weapon with which to meet this situation.

The professional skill of the ophthalmologist may be supplemented by the special skill of the Medical Social Worker. She may interpret his recommendations to the patient and his family; she may see that those recommendations are carried out; she may help the patient over long and discouraging periods of time to return steadily to the ophthalmologist until his case is considered closed.

Encouraging hospitals with eye clinics to include on their staff such a worker is a project which should interest any organization connected with the blind or prevention of blindness.

In a new field of this sort, great care should be taken in selecting people of a particularly high quality for training. Training is important but it is futile to superimpose technical training on a mediocre personality. Warmth, sympathy, patience, humor, and understanding are necessary qualities in dealing with those unfortunates who are filled with fear at the possibility of losing their eyesight. There are prejudices to be broken down and unpleasant truths to be interpreted gently but firmly. Added to this should be good Medical Social Work training and extensive experience in a family agency.

Below is a tentative outline of a training course for Medical Social Eye Workers given at the Massachusetts Eye and Ear Infirmary in the fall of 1931. (4 periods of 4 weeks each.)

First Period

Medical Teaching.--Eight medical lectures given by ophthalmologists

First Period - cont'd

on the staff; (2) Recommended reading and study of eye diseases, and (3) Study in eye clinic through special cases used for demonstration by medical staff.

Social Management in the Eye Clinic.--(1) Observation of clinic activities--personnel and their respective duties; (2) Methods of case selection; (3) Reasons for case selection; (4) History and development of department; and (5) Records.

Case Work Study.--(Through observation, conference, and reading.) --(1) Bulk handling in clinics; (2) Selected case work; and (3) Relation with outside agencies.

Community Program.--(1) Study of community set-up--public health, educational, social, and legislative aspects; and (2) Visits to local organizations for the blind, local organizations for prevention of blindness and sight-saving classes.

Second Period

Case Work Participation.--(1) Following through case problems; (2) Conferences with workers in social service department; (3) Clinic talks by doctors in Massachusetts General; and (4) Place of the general hospital in eye work.

Special Study Project.--(1) Selection of cataract cases appropriate for statistical study; (2) Follow-up of cases in homes and clinics; (3) Conferences with staff doctors re medical data; and (4) Conferences with social workers re social data.

Clinic Work Participation.--(1) Handling of patients in clinics (2) Recording; and (3) Detailed work with patients, especially in connection with cataract cases used in study.

Third Period

Case Work.--Continued with cataract patients.
Special Project.--Continued as in second period
Organization.--Lectures, conferences, discussions, and reading

Fourth Period

Special Project.--(1) Continued as in second and third periods; (2) Assembly and evaluation of material; (3) Statistical formulation of material; and (4) Interpretation of Study.

Fourth Period - cont'd

Review of Course.--Conference

Criticism of Course.--Conference.

Future Program.--Conference.

Problem of Students.--(1) Study of anticipated jobs of individual students; and (2) Conference based on what the individual needs will be.

As the interest in this field of work has grown during the past few years, a change in the training is being contemplated. The applicants for training of this kind are of two classes:

1) Those with a background of a School of Social Service who expect to work exclusively in hospital clinics.
2) Field workers with prevention of blindness organizations who expect to devote all their time to field work.

Information on these courses may also be obtained from the National Society for the Prevention of Blindness.

Once trained, the opportunities for such workers are endless.

Prevention of Blindness Through Medical Social Eye Workers

Work With Glaucoma

Glaucoma is a disease of the eye which is marked by increased intraocular pressure resulting in hardness of the eyeball, atrophy of the retina, cupping of the optic disc, and blindness.

This disease destroys the vision of many eyes annually in this country. (5.4% of all known blindness is due to Glaucoma.) It is amenable to control if diagnosed early and supervised carefully over long periods of time.

As an example of what can be done through the cooperation of ophthalmologists and Medical Social Eye Workers, a piece of work which has been carried on at the Massachusetts Eye and Ear Infirmary may be cited.

This program covers three phases of work: (1) Gathering data; (2) Following the patients to make certain their return to the clinic for their medical treatment; (3) Seeing through the necessary social treatment for certain patients so that they may be able to carry on. This is especially necessary, because sufferers from Glaucoma should be relieved of any worry or strain.

The clinic work included constant checking on vision, fields, and tension. After the interest of the patient and his family had been enlisted, they were given a small pamphlet "Information for the Patient with Glaucoma" which explains the condition, and the importance of steady treatment.

Since Glaucoma sufferers become easily discouraged under the long periods of treatment which are necessary for the control of the disease, it is important to draw both the patient and his family into the partnership between the ophthalmologist and the Medical Social Eye Worker.

Studies such as this one might well be duplicated all over the country, and would do much to win the battle against Glaucoma.

Prevention of Blindness Through Medical Social Workers

Work with Syphilis

It is estimated that 15 to 25 percent of all blindness in America is due to Syphilis. The commonest diseases of the eyes which are often caused by Syphilis are:

1. Interstitial Keratitis
2. Iritis
3. Choroiditis
4. Optic Nerve Changes
5. Optic Atrophy
6. Paralysis of the Ocular Nerves

There is an important field for the Medical Social Eye Worker in preventing blindness from this disease. A great deal may be done by instructing the patients of the danger to themselves and their families; and of the absolute necessity for treatment over long periods of time, even after the symptoms have disappeared.

A program for the control of these diseases is (1) Early diagnosis and medical treatment; (2) Examination of the other members of the family wherever recommended by the physician; (3) Routine Wasserman for all expectant mothers to reduce the eye casualties from congenital Syphilis, followed by the treatment of all expectant mothers found to be syphilitic; (4) Close cooperation between syphilis clinics and eye clinics because of the constant referral from one clinic to the other.

The program should not stop with clinic work, but should extend out into the community and be linked with Social Hygiene programs; should assist in changing public opinion and disseminating information on how blindness from Syphilis may be prevented; should interpret the work to non-medical agencies, thus permeating the whole community with knowledge which will be an effective weapon against much unnecessary blindness.

Prevention of Blindness Through Medical Social Eye Workers

Medical Social Eye Workers in Connection with Trachoma Control

Medical Social Eye Workers could be of great value in communities where Trachoma is prevalent by educating the patient and his family as to how infection may be avoided. She should also make the whole community aware of the methods by which Trachoma is controlled.

Medical Social Eye Workers in Connection with Ophthalmia Neonatorum

A Medical Social Eye Worker can do a great deal toward real prevention of blindness by educating expectant mothers suffering from gonorrhea; by having them report to hospitals during pregnancy so that the birth canal may be at least partially sterilized, thus minimizing, as far as is humanly possible, infection to the new-born.

Medical Social Eye Workers in Connection with Sight-Saving Classes

Such workers can be of immeasurable value in towns where there are classes for the visually handicapped.

In cases of Phlyctenular Keratitis, contact may be made with the home and the necessity of improving diet, proper nourishment, plenty of rest, fresh air and sunshine explained to the parents.

In cases of Interstitial Keratitis, such a worker can, by working with the syphilis clinic, see that treatment is carried out which will clear up the eye condition.

In cases of congenital cataracts, a worker may educate the parents to the place where they will consent to operations which will restore vision.

She may check on the highly myopic (near-sighted) children who must report to their ophthalmologist at regular intervals.

She may do special work with children who have squint (cross-eyes) and prevent the loss of vision which sometimes follows an uncorrected squint.

Medical Social Eye Workers in Connection with Schools for the Blind

It is becoming more and more apparent that a thorough ophthalmic examination for children entering Schools for the Blind would bring to light many instances where refraction, operation, or treatment would make it possible for these children to return to the seeing world.

Attached are copies of studies made at two year intervals in the Illinois School for the Blind by Doctors Gradle, Gifford, Adams, and Gamble which show the need of intensive study of this situation. These studies are packed with rather startling facts which imply a condition, not limited to one state, and which should be of great interest to people who wish to promote prevention of blindness.

A happier educational solution would be the employment of a Medical Social Eye Worker on the staff of the School for the Blind. She could work closely with the ophthalmologist of the school, carry out his recommendations and instructions, and not only prevent much blindness and restore much sight, but save the tax payers lare amounts of money now spent on educating children as totally blind.

A SECOND OPHTHALMOLOGICAL SURVEY OF THE ILLINOIS STATE SCHOOL FOR THE BLIND

A. L. Adams, M.D.
Jacksonville, Ill.

R. C. Gamble, M.D., S. R. Gifford, M.D. and H. S. Gradle, M.D., Chicago

FIRST SURVEY

In April 1933 a survey was made of all of the children in residence at the Jacksonville School, at the request of the Board of Public Welfare of the State of Illinois.1/ A total number of 238 children were examined, their visual acuity was measured and the history on file at the school was noted. In each instance it was determined whether the child should be in a blind class, sight-saving class or regular school. Special attention was given to the possibility of improving their vision by medical or surgical treatment. It was found that:

The number of children with vision in the better eye of 20/70 or better was 18 or 715 percent

The number of children with vision in the better eye of between 20/70 and 20/200 was 41 or 17.2 percent

The number of children with vision in the better eye of less than 20/200 was 179 or 75.3 percent

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1/ An ophthalmological survey of Illinois State School for the Blind. American Journal of Ophthalmology Vol. 17, No. 7 July 1934.

From this it can be seen that 59 children or 24.7 percent were receiving instruction by blind methods when they really belonged in sighted classes. In addition, 64 children or 26.9 percent offered some possibility of having their vision improved by appropriate treatment.

In view of these facts the following recommendations were submitted:

1. The establishment of model sight saving classes in the School for the Blind at Jacksonville, with the understanding that admission to such classes is open only to children whose homes are not within available distance of established sight saving classes.

2. Blind children and sighted children may be fed and housed together as at present, but should have separate instruction rooms and methods.

3. The visual requirements for admission to the School should be (a) For blind instructions vision of less than 20/200 in the better eye with correcting glasses; (b) For sight saving classes: vision between 20/70 and 20/200 in the better eye with correcting glasses.

4. One of the requirements for admission to the School should be a certificate of a physician licensed to practice in Illinois and registered in the Section of Ophthalmology of the Illinois State Medical Society, stating the diagnosis and condition of each eye and the vision with and without correcting glasses.

5. The attending ophthalmologist of the School should be empowered to refuse admission to new applicants whose vision exceeds the limits defined in Section 3. This calls for an examination of all new applicants immediately upon admission.

6. A systematic examination of the entire Blind School population should be made every three years, preferably by a committee of three ophthalmologists.

SECOND SURVEY

A second survey was made in the same manner in October 1935. At this time there were 224 children in residence.

The number of children with vision in the better eye of 20/70 or better was 7 or 3.1 percent

The number of children with vision in the better eye of between 20/70 and 20/200 was 39 or 17.4 percent

The number of children with vision in the better eye of less than 20/200 was 178 or 79.4 percent

All of the children with vision of 20/200 or better were receiving sight saving class instruction.

The appended tables A, B and C give the details of the differences found in the two surveys. The most striking differences are:

1. The number of patients with vision of 20/70 or better was reduced from 18 to 7.

2. The number of cases of optic atrophy increased from 32 to 63.

3. The number of cases of glaucoma increased from 17 to 35.

4. The number of cases of operable cataract increased from 7 to 15.

5. The number of cases of retinal detachment increased from 0 to 6.

6. The number of cases of trachoma was only 4.

About the same number of surgical operations were advised in each survey, and in only a few instances had operations recommended in the first survey actually been done. It is quite obvious that this situation needs to be remedied, both for the welfare of the children and in fairness to the taxpayers of the State. After a child is in the school it is quite difficult to get the parents to consent to an operation. Of course, a policy might be adopted of discharging any child if the parents declined to permit a recommended operation to be done, but such a policy would cause considerable friction and resentment. The same objective would be reached within a few years if the institution declined to admit any child who might be benefited by surgical treatment until such treatment had been tried. This recommendation has been made to the Board of Public Welfare.

TABLE A

Classification According to Vision

	1935	1933
Both eyes totally blind	50	49
One eye totally blind	51	43
Best eye has light perception	55	45
Best eye discriminates shadows	9	15
Best eye counts fingers	8	23
Best eye 1/200 to 20/200	56	47
Best eye 20/200 to 20/70	39	41
Best eye 20/70 to 20/30	6	13
Best eye 20/30 or better	1	5

TABLE B

Classification According to Disease

	1935	1933
Staphyloma	16	10
Optic Atrophy		
Menigitis	14	2
Hereditary	2	1
Undetermined	29	29
Oxycephaly	2	0
Head Injury	10	0
Brain Tumor	6	0
Accidents		
Perforating injuries	7	10
Sympathetic ophthalmia	13	9
Glaucoma		
Primary	22	3
Secondary	13	14
Cataracts operable but not operated on	15	7
Cataract	54	34
Cataract with microphthalmos	6	11
Ectopia lentis	10	0
Microphthalmos	8	9
Maculur coloboma	7	0
Choroiditis	13	6
Iritis	2	0
Corneal opacity	38	21
Interstitial keratitis	6	8
Phthisis bulbi	37	14
Enucleated both eyeballs	8	10
Cerebral blindness	2	3
Retinitis pigmentosa	8	7
Conical cornea	3	2
Retinitis proliferans and vitreous hemorrhage	2	2
Retinal detachment	6	0
Retinal degeneration	6	8
Xerosia of cornea	2	1
Definitely due to ophthalmia neonatorum	22	27
Keratoiritis	2	0
Myopia	15	12
Hyperopia	8	5
Albinism	16	5
Trachoma	4	2
Aniridia	4	2
Cryptophalmos	1	0
Metastatic endophthalmitis	14	0
Anophthalmos	1	0
Retinoblastoma bilateral	1	0
Congenital mystagmus	2	0

TABLE C

Summary of Treatment Advised

	1935	1933
Trephining	1	3
Iridectomy	15	14
Iridectomy and lens extraction	4	4
Lens extraction	4	0
Enucleation	4	4
Capsulotomy	0	1
Needling	31	34
Iridotomy	1	1
Diathermy peritomy	0	1
Chalazion removal	0	1
Stripping cornea and graft	2	1
Iridencleisis	4	0
Excision of staphyloma	2	0
Corneal transplant	2	0
Evisceration	1	0
Refraction	40	69
Telescopic lenses	7	11
Contact glass	0	1

PREVENTION OF ACCIDENTAL BLINDNESS

Since 16½ percent of all blindness is due to accidents a great deal of thought and care should go into the formulation of a program to reduce this deplorably high figure, since in the very nature of things most accidents and their results are preventable.

Serious eye accidents fall into three categories:

1). Those that occur in the home.
2) Those that occur in the street.
3) Those that occur in Industry.

In the home, the use by children of knives, scissors, ice picks, and other sharp instruments or playthings, such as darts and bows and arrows, and the careless use of lye by members of the household, causes most of the serious eye accidents. An educational campaign through Mothers' Clubs and P.T.A. groups might help reduce eye accidents in this group. Propaganda for the elimination of the manufacture of dangerous toys would of course be basic in the prevention of many of these accidents.

Although the same sort of eye accidents may occur on the street as in the home, the most serious of street hazards is perhaps the use of fireworks on the Fourth of July and at Christmas.

Formerly it was thought that model local ordinances limiting the sale of fireworks would solve this problem. Experience has taught us that such procedure is not effective. If the vendors of fireworks are not allowed to sell within the city limits, they will move out on to the country roads and the sale of fireworks will be affected very little.

The best thinking on this subject now is that all interested in this movement should work toward the restriction of the sale of fireworks by

manufacturers to industrial and governmental agencies and against their sale to the public.

Legislation of this kind may be brought about by educational work of a dramatic and spectacular type, through the newspapers, magazines, talks to clubs, etc. A clipping agency on Fourth of July accidents for one year, carefully analyzed and codified, may form a basis for fact finding which can be used the subsequent year with telling effect. Along with the newspaper study, the cooperation of all the ophthalmologists who treat Fourth of July accident cases might furnish supplementary information of a very valuable nature.

Once the eye hazards in any industry have been discovered, it is the province of agencies interested in the prevention of blindness to see that the employer provides the proper goggles, shields, head-masks, or other protective devices necessary. But further than this, the employer should be urged to carry on a program amongst employees to educate them as to the necessity for wearing the devices and supervise them so that they are worn steadily.

It is also important to bring about on the part of employers an appreciation of the economic value of thorough-moving accident prevention measures eliminating the hazards, rather than trying to counteract them by the use of protective devices. Employers should also be urged to provide trained First Aid services and be educated to an appreciation of the value of trained workers in this field as against amateurs.

For the prevention of all these accidents we must rely primarily on education -- of the mother, the child, and the worker.

The National Safety Council and the National Society for Prevention of Blindness have a large amount of information available on this type of work.